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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

HARVEY, DIONNE

ART UNIT PAPER NUMBER

2643

DATE MAILED: 10/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/838,886

Applicant(s)
Bachmann

Examiner
Dionne Harvey

Art Unit
2643



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1-6 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 7-16 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Objections

Claim 15 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 15 fails to further limit claim 7.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 recites "...a basic pattern is always repeated in a reduced scale, and is again repeated in these smaller structures ." Explanation is required for these smaller structures.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-6,17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima (US 6,188,775).

Claim 1, in figure 6, Azima '775 teaches a tweeter comprising a light weight, freely carried thin sandwiched plate(2) which can be excited into multiple reflected bending waves; and at least one driver (68) wherein the driver is designed to excite at higher frequencies and the sandwich plate is designed for propagation of bending waves at low damping; the sandwich plate is freely supported by holding elements (in figure 3, see element 3) with low damping. Azima does not specifically teach that the holding elements are designed to be low damping at higher sound frequencies. However, The Examiner takes Official Notice that damping in the form of a panel suspension or a weighted mass, which will decouple from the panel at a higher frequency, are well known in the art and would have been obvious so that the damping member does not attenuate the bending waves of the panel. See cited references, below.

Claim 2, in figure 2a, Azima teaches that the sandwich plate has two cover plates(21) and a core layer(22).

Claim 3, Azima teaches a honeycomb structure.

Claims 4 and 22, Azima does not clearly teach that the core layer contains a spatially different distribution of elasto-mechanical properties. However, it would have been obvious to

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provide a core layer containing a spatially different distribution of elasto-mechanical properties so as to achieve the vibrational frequency response desired.

Claim 5, Azima teaches that the core layer may be constructed in a honeycomb formation. The apertures of the honeycomb core layer provide the zonal thinning and/or cutouts, as claimed.

Claim 6, as best understood with regard to the U.S.C. 112 second paragraph rejection above, though Azima does not clearly teaches that the cut-outs/zones may be repeated in a reduced scale, it would have been obvious to vary the core spacing within honeycomb formation, since this will increase the rigidity where core spacing is decreased, thereby achieving the vibrational frequency response desired.

Claim 17, Azima teaches that the holding element (3) may be inserted within a larger support structure (1).

Claim 18, Azima teaches that one side of the holding structure(3) is attached via adhesive to the sandwich plate(2) and the other side is attached to the support structure(1).

Claim 19, Azima teaches that the edge of the holding element(3) is cemented via adhesive to a cut-out of the surrounding support structure(1), as broadly claimed.

Claim 20, In figure 6, Azima teaches that the back side of the driver is a holding element to wires for connection to amplifier circuitry.

Claim 21, in figure 3, Azima teaches that the plate diaphragm(2) is designed as a support structure for element (4).

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Allowable Subject Matter

Claims 23-24 are allowed. Claims 7, 9, 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 8, 10-14 are objected to due to dependency upon claim 9.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Azima US 6,151,402 teaches materials from which core may be constructed.

Azima US 6,442,282 teaches elements having low damping at higher frequencies.
see column 4, lines 22-29

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statements for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111. The examiner can normally be reached on Monday through Friday from 8:30am to 6:00pm.

Any responses to this action should be mailed to:

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Commissioner of Patents and Trademarks

Washington, DC 20231

or faxed to:

(703) 308-6306, for formal communications for entry

Or:

(703) 308-6296, for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA., Sixth Floor(Receptionist)

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Curtis Kuntz, can be reached at (703) 305-4708.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Dionne Harvey whose telephone number is (703) 305-1111.

D.H.

October 15, 2003


CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600